AMENDMENTS TO THE CLAIMS

1.(Currently Amended) A 3-5 group compound semiconductor comprising a GaAs substrate, a buffer layer on said GaAs substrate and an epitaxial crystal layer on said buffer layer, said layers being formed by an epitaxial crystal growth method, wherein

said buffer layer and said epitaxial crystal layer on said buffer layer are 3-5 group compound semiconductors each independently represented by the general formula $In_xGa_yAl_zAs$ (wherein, $0 \leq x \leq 1$, $0 \leq y \leq 1$, $0 \leq z \leq 1$, $x+y+z=1$), and said buffer layer has a structure formed by laminating at least two kinds of layers having different compositions for n ($1 \leq n \leq 30$) times, where n is the number of repetitions of the two kinds of layers, and the two kinds of layers are a $Ga_{1-Z}Al_ZAs$ layer (wherein $0<Z \leq 1$) and a GaAs layer, and the dislocation density in the epitaxial crystal layer on said buffer layer is $2000/cm^2$ or less.

2.(Currently Amended) A 3-5 group compound semiconductor comprising a GaAs substrate, a buffer layer on said GaAs substrate and an epitaxial crystal layer on said buffer layer, said layers being formed by an epitaxial crystal growth method, wherein

said buffer layer and said epitaxial crystal layer on said buffer layer are 3-5 group compound semiconductors each independently represented by the general formula $In_xGa_yAl_zAs$ (wherein, $0 \leq x \leq 1$, $0 \leq y \leq 1$, $0 \leq z \leq 1$, $x+y+z=1$), and said buffer layer

has a structure formed by laminating at least two kinds of layers having different compositions for n ($1 \leq n \leq 30$) times, where n is the number of repetitions of the two kinds of layers, and the two kinds of layers are a $Ga_{1-Z}Al_ZAs$ layer (wherein $0<Z\leq 1$) and a GaAs layer, and the dislocation density in said epitaxial crystal layer on the buffer layer is 1/3 or less of the dislocation density in said GaAs substrate.

3-4. (Cancelled)

5.(Previously Presented) The 3-5 group compound semiconductor according to claim 1 or 2, wherein the value of said z is 0.01 or more and 0.4 or less.

6.(Previously presented) The 3-5 group compound semiconductor according to claim 1 or 2, wherein at least one layer of said two kinds of layers is doped with an n-type dopant.

7. (Original) The 3-5 group compound semiconductor according to Claim 6 wherein said n-type dopant is Si and the concentration of this Si is 1×10^{17} cm^{-3} or more and 5×10^{18} cm^{-3} or less.

8.(Previously Presented) The 3-5 group compound semiconductor according to claim 1 or 2, wherein an n-type dopant is planar-doped in at least one layer of said two kinds of layers.

9.(Previously Presented) The 3-5 group compound semiconductor according to claim 1 or 2, wherein an n-type dopant is planar-doped on the interface of at least one layer of said two kinds of layers.

10.(Previously Presented) The 3-5 group compound semiconductor according to claim 8 wherein said n-type dopant is Si and the planar-doping concentration of this Si is 1 X 10^{11} cm^{-2} or more and 5 X 10^{12} cm^{-2} or less.

11.(Previously Presented) A light-emitting element comprising the 3-5 group compound semiconductor of claim 1.

12. (Withdrawn) A method of measurement of dislocation density in epitaxial crystal comprising the steps of: irradiating an epitaxial crystal with laser light having a wavelength shorter than that corresponding to the bandgap energy of crystal composition; measuring the in-surface distribution of the peak intensity of thus-obtained photo-luminescent light; and calculating the dislocation density (N cm^{-2}) from the number (n) of dark spots or dark lines and the area (S cm^2) of measurement region, according to the following formula (I).

$$N=n/S \qquad (I)$$

13. (Withdrawn) A method of measurement of dislocation density, according to Claim 12, wherein the epitaxial crystal is composed of a plurality of layers, and the dislocation density is calculated for each layer.

14.(Previously Presented) The 3-5 group compound semiconductor according to claim 1 or 2, wherein n is 2 to 30.

15.(Previously Presented) The 3-5 group compound semiconductor according to claim 1 or 2, wherein n is 2 to 20.